THE COVID-19 PANDEMIC'S EFFECT ON THE USE OF DIGITAL PARTICIPATION BY INDIANA MUNICIPALITIES

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Abstract

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This thesis investigates the effects that the COVID-19 pandemic has had on the use of digital public participation by Indiana's municipalities. Indiana's "Open Door Law" requires that local governments make most government meetings open to the public. This has forced municipalities to adapt to the COVID-19 pandemic and still hold these meetings. The nexus of Indiana's "Open Door Law" and the COVID-19 pandemic has provided a policy window that gives a motivation to adopt innovative public participation practices through the use of digital platforms. It integrates existing literature on public participation, public participation evaluation, e-government, and the digital divide to understand the basis for previous research into the field. Public participation has largely been interested in citizen empowerment and control. There have been many models that attempt to explain how governments engage with digital platforms to facilitate public participation. In the following paper, these models have been utilized to help explain public participation in a digital context. The researcher utilized data obtained from two surveys to reach their findings. The first survey was administered slightly after the advent of the COVID-19 pandemic, and the second survey was administered six months later. The researcher conducted a correlation analysis on the selected variable of population size and the percentage of the rural population. The findings of this research were largely confounding partially due to a small sample size but still indicated that Indiana municipalities in our sample had increased their use of digital public participation and they perceived an increase in the quality of public participation after the COVID-19 pandemic began.

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I would also like to thank Indiana's municipal leaders that took time out of their busy schedule to complete the surveys that were used towards completing this paper. Even though they were busy being on the frontlines of managing this state's cities, towns, and counties, they gave a graduate student some of their valuable time. I hope that somehow this thesis can contribute towards Indiana local governments' improving their use of digital public participation.

Finally, I would like to thank my wife. I would not have been able to do any of this without her. She has always believed in me and supported me in my pursuit of education. The completion of this thesis marks the end of this pursuit or at least the beginning of a long break. I promise you won't hear the words "digital public participation" come out of my mouth again, but you will probably continue to be subjected to my ranting about whatever I have read most recently. I like you, and I love you.

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Chapter 1: Introduction

The researcher is using the data collected to address several questions regarding how the COVID-19 pandemic has impacted the use of digital public participation by Indiana Municipalities. First, what strategies did Indiana's municipalities use to combat the COVID-19 pandemic? Though the research is focused primarily on the use of digital public participation, we find it important to understand the broader strategies for virus mitigation employed by municipal leaders. Second, could the COVID-19 pandemic lead to permanent shifts in the use of digital public participation by Indiana municipalities? This was assessed by measuring the perceived quality of public participation both before and after the advent of the pandemic, and also serves to answer another of our research questions. Third, what are municipal leaders' attitudes towards the use of digital public participation by their governmental unit? Do they perceive it to be effective and does it have a positive impact on their overall public participation? Fourth, what barriers are preventing municipalities from engaging in digital public participation? This relates to the digital divide, and if the ruralness of a municipality impacts their employment of digital public participation. Through data obtained through two surveys, the researcher attempts to answer these questions, and present the argument that the COVID-19 pandemic has altered the use of digital and public participation by Indiana's municipalities.

The COVID-19 pandemic has provided an intriguing opportunity amid the social and economic upheaval it has caused. How local governments have traditionally engaged the public has largely been interrupted. Public meetings have been canceled or postponed for the goal of protecting the public from the threat of viral spread, however, Indiana law mandates that meetings still need to take place for the sake of fostering transparency in municipal governments. This "Open Door

Law", IC 5-14-1.5, requires that municipalities hold public meetings under certain circumstances. Further, the city must adopt a local ordinance that allows for electronic meetings before they are allowed. Luckily, Indiana's governor suspended this rule during the time of the COVID-19 pandemic. Given the unique circumstances that the COVID-19 pandemic has provided, there is a greater need for public engagement. Pandemics provide an increased need for government transparency to aid in the dissemination of information to the public (French & Raymond, 2009).

Public participation and public meetings have long been the main interface between the public and their government officials at the local level. However, new technologies have offered an alternative to the traditional settings of city halls and school gymnasiums as the backdrop for these meetings. Mossberger, Tolbert, and McNeal (2008) define: "'digital citizenship' as the ability to participate in society online" (p. 1). I would like to narrow this definition to more specifically focus on the actions citizens take to participate digitally. The use of these new technologies to facilitate public meetings and participation form this paper's definition for digital public participation. Whether it is leaving a comment through a government website or social media site, or you log into a Zoom meeting for a planning commission meeting. These are all forms of digital public participation. If you have done any of these or anything like this, you have engaged in digital public participation. Digital public participation is the use of information and computer technologies, like smartphones, for engaging the public.

Examples

Below are some examples of how governments have used digital platforms to engage with the public. These examples come from the City of Warsaw, Indiana. Warsaw is a small city in Northern Indiana and, for such a small city, has a robust online presence.

Government website with the ability to comment

The below URL is a link to a webpage which offers numerous options, based, on department to ask questions or report concerns. These services allow citizens one-way communication with their elected and appointed government officials. This type of communication functions to enhance service provision and delivery, and not impacting local policy decisions or agenda setting.

Link:
https://www.warsaw.in.gov/MyAccount?from=url&url=%2fRequestTracker.aspx%3fstrAction%3dLogin%26ysnSave%3d1%26newURL%3d%2fforms.aspx%3ffid%3d149

Government website with online meeting capabilities

This below URL provides a link to a webpage that broadcasts public meetings in real-time to view public meetings. This webpage also provides a link to watch previous meetings and view the associated meeting agendas and meeting minutes. The broadcasted meetings offer a live-chat function so digitally engaged citizens can partake in the meeting as they are happening, from anywhere in the community. This type of function provides two-way communication and a means to engage nearly seamlessly in public meetings. Citizens can use this link to engage in agenda setting and influence local policy.

Link: https://www.warsaw.in.gov/watchcitymeetings

Government social media page:

The below URL is a link to the City of Warsaw's Facebook page. While some research debates the usefulness of social media by local governments (Elvira et al., 2014; Graham and Avery, 2013). Other research shows that social media can be used to reconnect disengaged citizens with local government leaders (Ellison and Hardy, 2014). While social media can be toxic, it does allow two-way communication with local governments. It is also more easily accessible as most smartphones come pre-equipped with social media capabilities.

Link: https://www.facebook.com/cityofwarsaw

All of the above examples show how a municipal government can engage the public using online or digital platforms. This is not an exhaustive set of examples of how municipalities can engage with the public using new technologies. It simply demonstrates that municipalities of any size can utilize them to increase public engagement and transparency.

The adoption of digital technologies by local governments has been the in many models of e-government, which use separated stages or steps to determine how much digital technology has been adopted by a governmental unit (Hiller and Belanger, 2001; Layne and Lee, 2001; Sangki, 2017, Wescott, 2001). The ability to adopt these technologies to facilitate public participation is not equally distributed (LaRose et al., 2007; Parker, 2000; Siau and Long, 2009). This inequality has long been declared the rural-urban digital divide, which is the difference in internet access experience between rural and urban individuals (Hindman, 2000). The following sections will

further examine the individual aspects that combine themselves in digital public participation and the rural-urban digital divide.

The findings of our research were confounding, potentially due to small sample size. We found that the state of Indiana had increased its use of digital public participation from the beginning of the pandemic to the time of our second survey. This could indicate that the pandemic has influenced municipalities to engage with more digital public participation. We did not find that any of our selected variables were correlated with an increase in the adoption or expansion of digital public participation platforms by Indiana's municipalities. In fact, the results from our samples showed that the smaller the community, the greater the likelihood of adopting digital public participation. Our samples also showed that a municipality adopting digital public participation before the start of the COVID-19 pandemic was correlated with a more positive perception of their public participation. These results demonstrate that there is more research to be done to fully understand the impacts that the COVID-19 pandemic has had, and will have, on public participation in Indiana.

This research provides insights into an often overlooked aspect of our civic lives, the public meeting. If the COVID-19 pandemic can provide any positive utility to our future, perhaps it will be in shifting how municipalities engage with the public. We hope that this research moves others to investigate the use of digital public participation and how municipalities engage in the new digital world. The remainder of this thesis will be used to provide a background on the issue, validate our methodology, and present our theories and findings.

Chapter 2: Literature Review

Public Participation

The fields of public administration and urban planning have long agonized over the purpose and place of public participation within their fields. A groundbreaking article, one that changed my perspective on the importance of the study of public participation was Sherry Arnstein's *A Ladder of Citizen Participation (1969).* In her article Arnstein (1969) states, "there is a critical difference between going through the empty ritual of participation and having the real power needed to affect the outcome of the process" (p. 216). In Arnstein's (1969) assessment, there are eight rungs to this ladder: manipulation, therapy, informing, consultation, placation, partnership, delegated power, and citizen control. The use of digital public participation does provide a means for increased citizen participation and could increase opportunities for citizens to engage in meaningful participation. Under my assumption of an increase in participatory opportunities, this would satisfy a movement up the rungs of Arnstein's ladder. It is difficult to identify how digital public participation interacts or improves public participation overall without running a detailed analysis of individual examples of its use within different unique municipal contexts. However, it is important to address some of the arguments that have been presented against Arnstein's ladder over its long life.

Collins and Ison (2006) presented a significant critique of Arnstein's ladder through challenging her ideas of hierarchy stating, "participation is assumed to be hierarchical in nature with citizen control held up as the 'goal' of participation – an assumption that does not always align with participants' own reasons for engaging in decision-making processes" (p. 4). Individuals don't

always attend public meetings or engage in civic engagement to enact institutional change or assume control of governmental decisions. Adams (2004) provides a myriad of reasons that people attend meetings arguing, "that public meetings serve an important democratic function by providing citizens with the opportunity to convey information to officials, influence public opinion, attract media attention, set future agendas, delay decisions, and communicate with other citizens" (p. 43). None of these align with the image of control that Arnstein (1969) asserts as the ultimate purpose of public participation. Collins and Ison (2006) also present an argument that there are inadequacies in Arnstein's use of the ladder to visualize the levels of citizen participation. This critique is mirrored by Connor (1988), "citizen power is not distributed as neatly as the divisions used suggest…the citizen participation/rungs on a ladder analogy suggests no logical progression from one level to another, one building to another" (p. 250). In agreement with Adams, Connor (1988) also addresses the need for context: "there is no one best way to design and manage a public participation program-it must reflect the specifics of the given situation" (256). While Arnstein's work has been influential in the discourse around public participation, and the formation of my ideals about citizen's involvement in decision making, public participation is complex and understanding its role as new technologies continue to develop will continue to be a fertile ground for meaningful research.

Arnstein moved us forward in how we engage in discourse about public participation. However, she was not able to see the future and did not conceive of digital technologies and online platforms, and further could not predict how they would impact public participation. New research has linked Arnstein's ladder and digital technologies (Effing and Groot 2016; Levenda et. al 2020). The foundations of digital public participation link this study to past work performed through attempting to answer how digital public participation has changed. Arnstein's

work continues to guide how we examine public participation even within a digital context. Outside of citizen empowerment and participation, digital public participation is also altering how citizens can advocate for themselves.

Davidoff (1965) presents a valuable theory that relates to the role of digital platforms in facilitating public participation with his work on advocacy planning. Advocacy planning is the theory that planners should operate as intermediaries between small special interest groups and their respective governments. The use of digital public participation can eliminate or mitigate the need for the planner to be an advocate, as digital public participation gives (almost) everyone a voice which could push advocacy planning forward as, "pluralism and advocacy are means for stimulating consideration of future conditions by all groups in society" (Davidoff, 1965, 285). However, digital platforms are still relatively new, and researchers have found that there are still only limited applications for citizen engagement (Evans-Cowley and Hollander, 2010). The instant nature of digital technologies such as smartphones provided citizens with a consistent ability to define public interest (Thomas, 2013).

Advocacy planning has found new life with the application of digital technologies. Digital technology and online platforms have made public participation easier than ever. Research has shown that digital platforms have created e-democracy which has changed how individuals can set agendas and advocate for the issues they find important (Kneuer, 2016; Saglie and Vabo, 2009; Van Der Meer, Gelders, and Rotthier, 2014). As we study and increase our understanding of how digital platforms impact and change how we govern. Whether it is new agenda-setting methods, such as e-democracy, or more simplified modes of public participation, digital technology has given new life to how planners advocate for the public and justifies both this research and any further research performed in the field.

Evaluation

Evaluating public participation is difficult. In part because of the critiques of Arnstein's ladder: context matters in determining the worth or value-added through the exercise of public participation. My research calls on my research participants to assess their public participation. Therefore, it is necessary to address or present some prescriptive process for the sake of stimulating a conversation about the evaluation of public participation. Laurian and Shaw (2007) do provide an understanding of how planners perform evaluations in practice. In responses compiled from a survey administered to certified planners, they provide answers on how planners evaluated the public participation in their communities including increased understanding, consensus reached/arrival at a decision, participant satisfaction, increased trust amongst participants, solution identified is workable/can be implemented, attendance, smooth process/little conflict, and number of participants. Laurian and Shaw (2007) recognize, "despite considerable attention given to public participation in planning practice and research, the field of participation lags behind" (p. 294). Even though there is a lag in research, understanding how public participation is evaluated by practitioners is vital to this research.

E-Government

Due to the relative newness of the internet and the digital age, the literature is not incredibly deep on e-government. Online and digital technologies also experience rapid changes and improvements which has led to research on e-government having a short half-life. One model of e-government that I have found to be applicable is the Developmental Stages of E-government model which presents four stages in which a government will move from the adoption to

implementation of full online functionality (Layne and Lee, 2001, p. 123). Though digital public participation is not explicitly mentioned in the Developmental Stages of E-Government model, digital public participation under the "transaction stage" of the model if we operate under their definition: "in the second stage, e-government initiatives will focus on connecting internal government systems to online interfaces and allowing citizens to transact with government electronically" (Layne and Lee, 2001, 125).

Other models of e-governance focus more on the integration of specific technologies within their models. Wescott (2001) presents a six-stage model for the adoption of e-government that began with establishing email services and moves through to digital democracy and a "joined-up" government where online services are seamlessly available to citizens. In Wescott's (2001) model, digital public participation falls under step three, allowing two-way communication (p. 9). This model is useful for providing a more concrete example of how the use of online tools can be integrated into governments. A limitation of this research is the geography used to establish this model. Wescott (2001) uses analysis of governments from the Asia-Pacific region to explain his six-stage model. Due to the nature of many rural communities in, this model is still applicable as many similar barriers exist in the integration of online tools for municipal governments. These barriers will be discussed in more detail below.

The next model of e-government I would like to introduce serves as an integration of the two above. Hiller and Belanger (2001) which has five stages: information, two-way communication, transaction, integration, and political participation. Their model is useful for consideration as it offers distinctions that correlate to the different needs that municipal governments could have and provides specific actions that would satisfy the conditions of their model's different steps. Furthermore, this model distinguishes between two-way communication and public participation.

This distinction connects with the insight provided by Adams, that public participation is utilized for many different reasons. Though this model and, the accompanying research, are applied to issues of privacy in e-government, their means of integration I found to be the most sophisticated and easily applied for municipal government use.

There are considerable arguments that the Hiller and Belanger model and all of the early models of e-government are lacking in both applicability and substance. They do not tell us why or how governments will begin using e-government or adapt to new technologies that will move them through the models. Coursey and Norris (2008) state that all of the dominant models of e-government are lacking in that no model, "tell(s) us how this progression or evolution will occur or how long it will take to fully unfold" nor "how governments will overcome the numerous and significant barriers" (p. 525). These models lack clarity in their application and also avoid mention of any causal relationships that would progress a government through the steps of the model.

Newer models have provided more clarity in the paths of movement through the steps of activating e-governments. Using South Korea as a case study, Sangki (2017) demonstrates the movement through their four types of e-government: (1) bureaucratic type, (2) information management type, (3) participatory type, and (4) governance type and relates them through increases in pluralism and societal structure. Sangki's relation of e-governance to pluralism connect the development of e-democracy and the applicability of advocacy planning to the models of e-government. There has also been more recent research that conceptualizes factors that encourage or prevent the adoption of e-government, external and internal enablers encourage, and barriers prevent. (Manoharan and Ingrams, 2018).

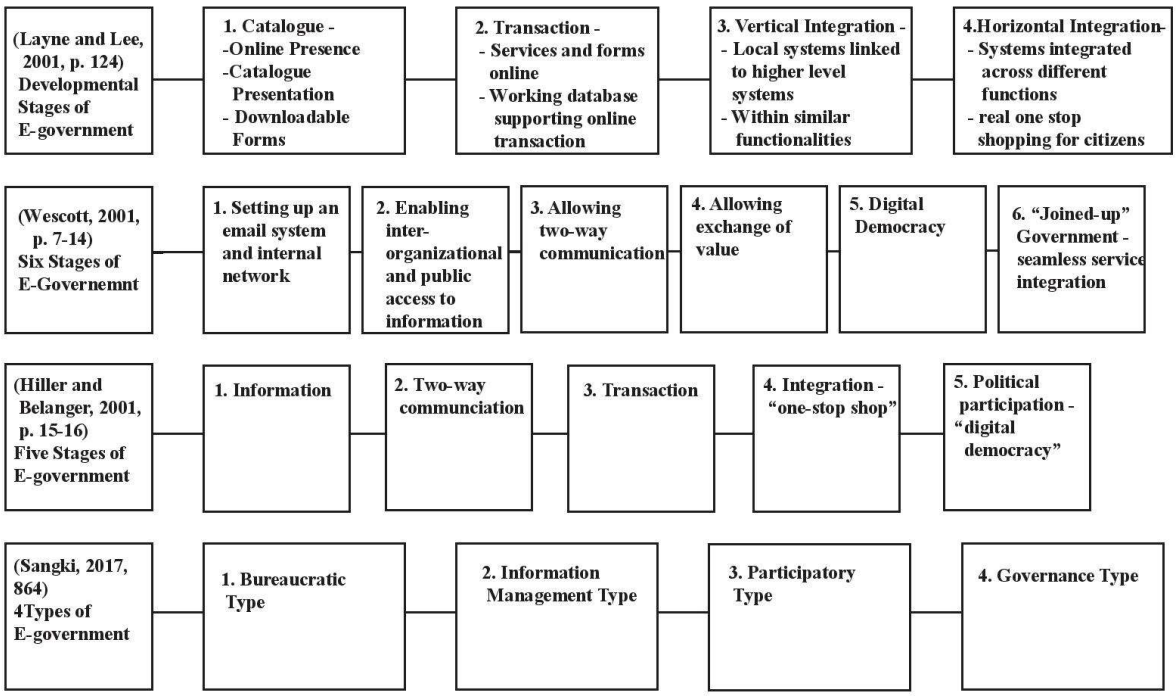

Figure 1 - The Different Models of E-Government

The Digital Divide

Many factors impact the personal use of the internet, such as the belief that they have the ability to competently utilize it (LaRose et al, 2007). There are also geographic components to lack of personal internet use and internet access. Even though the internet brings substantial advantages to function in modern society, privately-owned telecommunications companies have not taken adequate steps to ensure the provision of internet services to rural individuals: "despite the consistent evidence of a substantial return on investment to the economy as a whole, the internal return on investment to those installing new rural infrastructure is often too small to justify the initial investment" (Parker, 2000, 282). Simply put, telecommunication companies don't see enough to money to be made in rural communities to provide infrastructure and access to rural

areas. This “digital divide” is a major factor in preventing the adoption of e-government equally in communities, and this is especially true as the methods of digital public participation become more advanced. This is validated by research that has found information technology infrastructure as a significant factor in determining the likelihood of the adoption of e-government (Siau and Long, 2009). Overcoming the digital divide and facilitating the construction of broadband infrastructure will be an important factor in increasing the implementation of e-government and digital public participation going forward. The prevention or inhibition of adopting or expanding of digital public participation can be caused by many things, and the digital divide shows that there are unique geographic and demographic factors that impact this adoption or expansion.

Synthesis

Public participation will continue to be an important area of study in the fields of public administration and planning. Arnstein’s ladder has given the means to assess how municipal governments are engaging their citizens. Digital technologies are also changing advocacy planning and have introduced new means to set agendas and are creating new ways for the average citizen to participate in local governance. Though advocacy planning focuses on empowering citizens, the actual quality of public participation is in the hands of those practitioners that are carrying it out, as we are relying on for this research. The models of e-governance have provided us with an understanding and frameworks to place the municipal governments in our study. These models of e-governance and digital public participation have already been integrated into the broader discussion of public participation and have been invaluable to the creation of this study. We have knowledge of the utility of the internet and

digital public participation, but this utility is not equally as noted through the literature on the digital divide. Given that Indiana is a state that consists of urban, suburban, and rural areas, understanding the digital divide is important in contextualizing some of the inhibiting factors the municipal governments in this study face when trying to adapt to the use of digital public participation.

Chapter 3: Hypothesis

The researcher would like to briefly outline our hypotheses for our research to temper our expectations and introduce our predictions for how the COVID-19 pandemic may impact the use of digital public participation by Indiana municipalities. In the following subsections, we will lay out our expectations and thought processes to lay the groundwork for our mindset as we continue with this research.

Strategies for Public Engagement During the COVID-19 Pandemic

We will investigate what strategies Indiana municipalities used by analyzing the descriptive statistics from our surveys. We expect that the dominant strategies will be the adoption or expanded use of online or digital public participation platforms. The use of e-governance has been well documented and adapted in various ways by local governments in Indiana. The existence and use of local government websites demonstrate that municipal governments already have some proclivity towards using online platforms to disseminate information and engage with the public. Posting a job or a utility outage is engaging the public, even though it is one-way communication. Posting a community update on a government social media page takes this a step further by allowing the public to comment with their thoughts and concerns. For these reasons, we would hypothesize that there would be a natural expansion of the use of more interactive digital public participation platforms that promote two-way communication such as livestreaming platforms or social media.

Barriers Preventing the Use of Digital Public Participation

We will use the descriptive statistics from our surveys again to develop an understanding of what barriers are preventing the adoption of digital public participation. While our surveys rely on the reasons reported by our respondents, therefore filtered through their perceptions, we believe that the perception of an impediment is enough to justify our survey participants' identification of an obstacle preventing engagement with digital public participation. We expect that the technical barriers (i.e. poor internet access) and professional limitations (not having the staff capacity to adopt or expand digital public participation) will be the most prevalent barriers identified that prevent the adoption or expansion of digital public participation.

We have also identified a variable that could offer a more concrete explanation of these barriers. We have discussed the existence of the digital divide which explains the difference in internet access between the rural and urban communities. We believe that the percentage of the rural population within a municipality will correlate with the likelihood that a municipality had adopted digital public participation. Below we will present our hypotheses regarding this correlation.

H_0: There will be no correlation between the percentage of the rural population in a municipality and the adoption of digital public participation.

H_A: There will be a negative correlation between the percentage of the rural population in a municipality and the adoption of digital public participation. As the percentage of the rural population increases for a municipality, the likelihood of adopting digital public participation decrease.

We expect to find that the alternative hypothesis will be correct and that there will be a negative correlation between the percentage of the rural population in a municipality and the likelihood of adopting digital public participation. This relies on our belief that the digital divide is still a driving force behind the use of digital platforms by municipal governments.

We will also examine the correlative relationship between the population size of the municipality and the adoption or expansion of the use of digital public participation. Municipalities with a larger population would have a larger tax base. The larger tax base could indicate that the municipality would have more money to dedicate to funding public participation. Under this assumption, we could use population size as an estimate to measure how fiscal constraints were preventing the adoption of digital public participation by municipalities. Below are our hypotheses for what we expect this relationship to be.

H_0: There is no correlation between the population size of a municipality and the adoption or expansion of the use of digital public participation.

H_A: There is a positive correlation between the population size of a municipality and the adoption or expansion of digital public participation. As population size increases, the likelihood of adapting or expanding digital public participation increases.

We are anticipating that there will be a positive correlation between the population size of a municipality and their adoption or expansion of digital public participation. We recognize that this is not a perfect means to measure the impact of fiscal barriers that could inhibit the adoption or expansion of digital public participation.

Permanent Shifts in the Use of Public Participation and Government Leaders Attitudes

We believe that the COVID-19 pandemic could result in a sustained increase in the use of digital public participation. Further, we believe that this can be determined by measuring the correlation between adoption or expansion of digital public participation and both the perceived quality of public participation after the beginning of the pandemic and the perceived change in the quality of public participation. In our survey, we ask our participants to rate the quality of public participation during the times before and after the advent of the COVID-19 pandemic. The measure of perceived change comes from the different values reported between these two times. This correlation will also serve to explain the governments' attitude towards digital public participation by measuring the correlation between the use of digital public participation and the perceived quality of public participation. We are operating under the assumption that government leaders would want to continue practices that increase the efficiency and quality of their public participation. We also understand that policy is enacted by humans that are largely guided by their perceptions.

H_0: There will be no correlation between the adoption or expansion of digital public participation and the perceived quality of public participation after the beginning of the pandemic and the perceived change in the quality of public participation between the start of the pandemic and the time this survey was administered.

H_A: There will be a positive correlation between the adoption or expansion of digital public participation and the perceived quality of public participation after the beginning of the pandemic and the perceived change in the quality of public participation between the start of the pandemic and the time this survey was administered

We believe that our alternative hypotheses will be correct that there will be a positive correlation between the adoption or expansion of digital public participation and a perceived increase in quality. This will serve as our measure to examine the attitude that Indiana's municipal leaders towards digital public participation as we are relying on their perception and determine if there is any possibility of a permanent shift in the use of digital public participation.

Chapter 4: Methodology

This research relies on the analysis of survey data to address the research questions I have presented in the above sections. As previously stated in this thesis, I see the COVID-19 pandemic as a policy window that could encourage more municipalities to utilize digital and online platforms to engage the public, which is my definition for digital public participation. The use of surveys as the means of data collection also allows me to use quantitative data analysis to reach my conclusions, and it also allows me to collect data over many diverse municipalities to detect and analyze the trends of digital public participation since the beginning of the pandemic. Given the restriction that Indiana placed on the size of public gatherings, every municipality was mandated to limit the size of their public meetings and provide some augmentation to how they conduct said meetings. This mandate provided an opportunity to determine if or how Indiana municipalities as a whole integrated or increased the use of digital public participation in response to the COVID-19 pandemic.

The use of this methodology also presents several limitations. I recognize that the use of this data limits my ability to draw many causal relationships outside of the relationship between the pandemic and the current increased use of digital public participation by Indiana Municipalities. The use of online surveys also biases my results on the basis that it could be assumed that responses to online surveys would indicate some predisposition to internet use. In the many models of e-government, email for two-way communication is the first stage of fully functional e-governments, so municipalities that have government email addresses are already engaging in e-governance to varying degrees (Layne and Lee, 2001; Wescott, 2001; Hiller and Belanger, 2001).

COVID-19 Response: Community Resiliency in the Hoosier State

In May of 2020, the Center for Business and Economic Research at Ball State University administered the survey: COVID-19 Response: Community Resilience in the Hoosier State. This survey included 95 research questions, 9 used in this research on public participation. This survey received 195 responses, however, only 115 respondents answered the questions related to public participation. The length of this survey may have contributed to the low response rate as many researchers have identified a negative correlation between survey length and response rate (Galesic and Bosnjack, 2009; Oosterveld, 2004; Rolstad, Adler and Rydén, 2011). The final hindrance to the survey the researcher would like to address is the concept of survey fatigue. Though we cannot determine how many surveys were sent to respondents, the beginning of the pandemic initiated research in many fields and respondents may have been inundated with requests to participate in research. This survey fatigue may also lead to lower response rates (Weitzer, 2004).

The survey included nine questions that were specific to the research in this thesis, however, they were questions more broadly related to the COVID-19 pandemic's effect on public participation. Some broader questions provide data that advances the ability to answer the research questions. Respondents were asked: (1) if they had canceled or rescheduled meetings, (2) if any meetings were held without public attendance, (3) if there were strategies to protect vulnerable populations, and (4) what strategies were being used. When responding to what strategies were being used to protect vulnerable populations, an option listed was adopting an online or partially online format. This answer was the inspiration to perform this research. The number of responses indicating a municipality adopted an online or partially online format also allows for an

opportunity to determine if there was an increase or decrease in the use of this strategy over the six months between the original and follow-up survey.

The findings of this survey were only used for the researcher to derive descriptive statistics regarding the use of digital public participation. This survey was preliminary and allowed the researcher to further hone the questions in the second survey. This survey took place before municipalities would have had time to implement digital public participation strategies, and the researcher decided that more time was necessary for municipalities to develop and implement their strategies. The researcher was fortunate to be invited to contribute to the survey, but due to the time-sensitive nature of its distribution, these data derived from the first survey served as a means to educate the researcher on the state of public participation at the advent of the COVID-19 pandemic.

Second Survey

The second survey was administered to respondents who answered that they were willing to be contacted for further research from the COVID-19 Response Community Resilience in the Hoosier State survey. Of the 222 respondents that responded, 98 indicated that they were willing to be contacted for further study. The 98 respondents were emailed a survey link to a follow-up survey that specifically focused on the municipalities' experiences with digital public participation. Of the 98 emails sent, 38 responses for a survey response rate of 38.8%.

The second survey was much shorter than the previous survey with the intention of increasing the response rate, which was accomplished, and due to a much narrower topic. Several researchers have noted a correlation between shorter survey length and an increased response

rate (Galesic and Bosnjack, 2009; Oosterveld, 2004; Rolstad, Adler and Rydén, 2011). There were also three reminder emails sent to these respondents to boost response rate, this was again per research that has indicated a positive correlation between reminder emails and increased survey responses (Van Mol, 2017).

This survey was composed of 16 research questions. To see a complete list of questions, please refer to Appendix B. The first question after the informed consent agreement asked whether the respondents' government unit engaged the public using digital or online platforms. If a respondent answered that they had engaged the public using digital platforms, the data they provided will help me determine what strategies Indiana municipalities have undertaken to remain engaged with the public during the pandemic. These respondents were asked to identify the platform types they have used before and after the pandemic. These platform types are government websites, social media, and livestreaming/broadcasting public meetings. There was an additional option for respondents to indicate any other digital platform they used to capture any strategies not covered by the researcher. The respondents were also asked if they had begun or expanded the use of digital platforms. There was also an option to indicate if they had neither began nor expanded the use of these platforms.

If they responded that they had not engaged the public using digital platforms, the data they provided will help us determine what barriers are preventing Indiana municipalities from utilizing digital public participation. The respondents were asked to indicate what was preventing them from utilizing these platforms. Regardless of how the respondent indicated they had or had not used digital platforms to engage the public, they were asked to assess their governmental unit's engagement with the public. This will be used to help assess the likelihood of continuing the use of digital public participation beyond the COVID-19 pandemic. The respondents were

also asked to assess the general likelihood of continuing the use of digital public participation after the pandemic, which will help the researcher forecast the future of digital public participation in Indiana. There were also opportunities for respondents to provide qualitative data to provide context to their answers. Though most participants did not engage with the opportunity to provide qualitative data, some of these answers will be included with the survey findings to present possible causation, though this research will not be able to determine causality.

This research is limited by the use of survey data. Due to the time constraints presented, the researcher was not able to perform qualitative interviews with the respondents. If this survey could have taken place, the research could have been improved by the ability to determine the cultural differences that may contribute to enacting the use of digital public participation by Indiana's municipal governments. However, the prospects of these interviews present an ideal opportunity for future research.

Post-survey Analysis

For the second survey, responses were gathered to determine the respondents' type of municipality (city, town, or county) and the name of their municipality. The researcher then added the 5-year population estimates from the 2019 American Community Survey and the 2010 census. The researchers also added the percentage of the rural population from the 2010 census. The population size was used as a rough estimate means to establish differences in financial status as larger cities would tend to have higher property tax revenue. The percentage of the rural

population was used to determine if the digital divide correlated with the implementation and use of digital public participation.

Correlation Analysis

To answer our research questions, the researcher analyzed the correlation between population size and the percent of the rural population and the implementation of digital public participation before the pandemic. The researcher also determined the correlation coefficient between the preCOVID-19 pandemic use of digital public participation and the perceived change in the quality of public participation after the start of the COVID-19 pandemic. This correlation was found using the population at the 2010 census and the 2019 American Community Survey Estimates. The researcher also performed a correlation analysis to determine if there was a correlation between these factors and municipalities' likelihood of adopting or expanding digital public participation. Finally, the researcher determined if there was a correlation between the adoption or expansion of digital public participation and the perceived change in the quality of public participation.

Chapter 5: Findings

The findings of this survey are comprised of the two surveys mentioned above. The first survey's findings, which were derived from the survey administered by the Center for Business and Economic Research, are descriptive and provide us both a context for the COVID-19 pandemic's initial impacts on public participation by Indiana municipalities. The results of this survey assist us in identifying the immediate impact on municipalities and the strategies those municipalities utilized to overcome the new restrictions that the COVID-19 pandemic has placed on municipalities. The second survey, which was administered five months after the initial, seeks to measure the perceived impact on the quality of public participation during the COVID-19 pandemic. Both surveys included questions aiming at the barriers that prevented the engagement of digital public participation to observe if there were any changes to these barriers.

Indiana Communities Institute Survey

Table 1, shows the number of respondents that canceled, rescheduled, or held meetings as planned. We found that the majority of respondents to our first survey had canceled a public meeting in reaction to the restraints the COVID-19 pandemic placed on public meetings. This could show that there was no contingency plan in place for holding meetings with social distancing restrictions in place.

	Canceled	Rescheduled	Neither
Since Governor Holcomb's stay-at-home order on March 23, has your government unit canceled or rescheduled any public meeting?	51 (44.35%)	29 (25.22%)	35 (30.43%)

Table 1: Community Resiliency in the Hoosier State - Meetings Canceled, Rescheduled, or Held as Planned

Our participants were then asked the follow-up question regarding any meetings that still took place, nearly sixty percent of our respondents indicated that they had held meetings without public attendance despite their being a legal requirement for public attendance under Indiana's "Open Door Law." This skirting of legislative requirements again speaks to the lack of contingency plans and the inability to adapt to the COVID-19 reality.

Were any meetings that would usually have been attended by the public held without public attendance?	
Yes	No
67 (58.26%)	48 (41.74%)

Table 2: Community Resiliency in the Hoosier State - Meetings Held Without Public Attendance

When asked how the public was informed of what happened during these meetings we found the two leading categories were livestreaming/broadcasting the public meeting and social media. These survey results demonstrate that our municipal respondents used digital public communication to inform the public about the happenings at the meeting. This also demonstrates Indiana municipalities are moving through the stages of e-governance. Given these findings, Indiana is firmly in Layne and Lee's (2001) second stage of e-government, Wescott's (2001) third step, and Hiller and Belanger's (2001) second or third step depending on the participants' answer.

How was the public informed about what happened during the meeting?	
Newspaper	42 (28.57%)
Meeting was broadcast or livestreamed	50 (34.01%)
Social Media	41 (27.89%)
Other	12 (8.16%)
Information was not made available to the public.	2 (1.36%)

Table 3: Community Resiliency in the Hoosier State - How the Public was Informed.

Table 4 shows us that the majority of our respondents indicated that they had strategies to protect vulnerable individuals as the state reopens. Though we saw a plurality of responses, the most popular strategy was to enforce social distancing requirements, with 99 of our respondents stating they would implement this strategy, and the second most popular strategy was adopting

an online or partially online format which received 61 responses, followed by requiring the wearing of masks during public meetings (49 responses). The latter of our responses again showed that Indiana municipalities had a propensity towards the use of digital public participation. Our respondents also offered other strategies that they plan to use to protect vulnerable populations, some of which were quite creative including renting a tent to facilitate social distancing, making hand sanitizer available, and requesting written public responses in advance. The 11 respondents who answered that they did not have strategies in place to protect vulnerable populations were asked a follow-up question to indicate why they had no strategies in place. Their responses were uniformly split between lack of resources, lack of professional capacity, and lack of technical capacity.

As the state reopens, does your governmental unit have a strategy to hold public meetings while protecting vulnerable populations?	
Yes	No
101 (90.18%)	11 (9.82%)
What strategies will be used?	
Adopting an online or partially online format	61 (27.73%)
Requiring masks at public meetings	49 (22.27%)
Enforcing social distancing guidelines at public meetings	99 (45%)
Other	11 (5%)

Table 4: Community Resiliency in the Hoosier State - Strategies in Place to Protect the Vulnerable

Second Survey

The second survey was administered five months after the Community Resilience in the Hoosier State survey. These questions were more honed to the topic of digital public participation. The same initial questions were asked, what type of municipality do you work for. This information was used to attach population data to the municipalities. Below, see the descriptive statistics from our second survey's findings.

		Total	City	Town	County
At any time before the COVID-19 pandemic and the Governor's executive order did your governmental unit use digital or online platforms to engage with the public?	Yes	23 (57.5%)	8 (53.3%)	11 (73.3%)	4 (40%)
	No	15 (37.5%)	7 (46.7%)	3 (20.0%)	5 (50%)

Table 5: Second Survey - Digital or Online Platforms for Engagement

Table 5 shows that the majority of our respondents had engaged in digital public participation before the COVID-19 pandemic. Towns reported a much higher rate of digital public participation use when compared to counties and cities. County respondents were the only set of respondents that reported that they had not engaged in the use of digital public participation platforms more than they had used these platforms before the pandemic.

		Total	City	Town	County
What platforms did your governmental unit use to engage the public (check all that apply)?	Government Website	19 (47.5%)	6 (40.0%)	9 (60.0%)	4 (40.0%)
	Social Media	17 (42.5%)	7 (46.7%)	9 (60.0%)	1 (10.0%)
	Livestreaming/Broadcasting Public Meeting	6 (15.0%)	3 (20.0%)	2 (13.3%)	1 (10.0%)
	Other	1 (2.5%)	0 (0.0%)	0 (0.0%)	1 (10.0%)

Table 6: Second Survey - Digital or Online Platforms Used for Engagement

Table 6 shows most popular platform for digital public participation was government websites. When looking through these findings under the models of e-governance, this would place Indiana in the second stage of the selected e-government models. Social media was the second most popular option, though there are limitations to business functions of government social media pages, (i.e. an inability to pay bills or fees), there is an opportunity to engage in two-way communication that would also place these municipalities in the second stage of e-governance and allows for some degree of public participation. Livestreaming/broadcasting was the least likely choice for digital public participation platforms which was lower than the results from the Community Resiliency in the Hoosier State survey. This could be attributed to the smaller sample size of this survey or the temporal nature of this survey specifying that we were asking about the time before the COVID-19 pandemic.

		Total	City	Town	County
What are the barriers that prevented your government from using digital or online platforms to engage with the public?	Lack of fiscal capacity	5 (12.5%)	2 (13.3%)	3 (20.0%)	0 (0.0%)
	Lack of technological capacity (poor internet access)	6 (15.0%)	2 (13.3%)	1 (6.7%)	3 (30.0%)
	Lack of professional capacity	4 (10.0%)	3 (20.0%)	1 (6.7%)	0 (0.0%)
	Lack of public interest	3 (7.5%)	3 (20.0%)	0 (0.0%)	0 (0.0%)
	Other	6 (15.0%)	2 (13.3%)	1 (6.7%)	3 (30.0%)

Table 7: Second Survey - Barriers to Engaging in Digital Public Participation

This question was asked to the respondents who indicated that they had not utilized digital public participation platforms. The results show a relatively even distribution across municipal categories and the chosen barriers. The lack of technological capacity was indicated at double the average for county governments. This could be explained by the nature of counties containing more rural populations. Cities government officials also contained the entirety of our responses that showed a lack of public interest being a major barrier to prevent the utilization of digital public participation. To investigate the causation behind this perception would require more qualitative investigation to yield any useable explanatory factor for these findings.

		Total	City	Town	County
Before the COVID-19 pandemic, how would you rate the quality of your governmental unit's engagement with the public?	Very Poor (1)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Poor (2)	2 (5.0%)	0 (0.0%)	2 (13.3%)	0 (0.0%)
	Fair (3)	17 (42.5%)	5 (33.3%)	8 (53.3%)	4 (40.0%)
	Good (4)	17 (42.5%)	9 (60.0%)	4 (26.7%)	4 (40.0%)
	Excellent (5)	2 (5.0%)	1 (6.7%)	0 (0.0%)	1 (10.0%)

Table 8: Second Survey - Quality of Public Participation Before Pandemic

This question relies on the respondents' perception of their local governments' public participation. The problem of perception is that it is highly unlikely that a municipal leader would rate their public participation as very poor. The results shown in Table 8 show few respondents that reported they have poor or very poor public participation and the majority of our responses indicating that most municipal leaders in our sample perceived their public participation to be fair or better. By scoring the quality of public participation from 1 (very poor) to 5 (excellent), we were able to determine the average quality of public participation in our sample. Before the COVID-19 pandemic, the average quality of public participation was 3.47.

		Total	City	Town	County
Since the beginning COVID-19 pandemic and the Governor's executive order, how would you rate the quality of your governmental unit's engagement with the public?	Very Poor (1)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Poor (2)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Fair (3)	14 (35.0%)	4 (26.7%)	6 (40.0%)	4 (40.0%)
	Good (4)	19 (47.5%)	9 (60.0%)	6 (40.0%)	4 (40.0%)
	Excellent (5)	5 (12.5%)	2 (13.3%)	2 (13.3%)	1 (10.0%)

Table 9: Second Survey - Quality of Public Participation since the Pandemic

These findings illustrate that, overall, our respondents reported a positive increase in their governmental unit's perceived quality of public participation since the average quality of public participation after the start of the pandemic was 3.68. The average score change in perceived public participation of .21. As addressed above, this survey could only measure the perceptions that our respondents had regarding the quality of public participation experienced by their governmental units. This finding contributes to this thesis by suggesting some alterations were taken towards either improving public participation or preserving public participation with an added effect of some marginal improvement.

Correlation Analysis

This subsection will address the results of our correlation analyses. These analyses were performed by Microsoft Excel's correlation function and show the correlation coefficient.

	Pre-Pandemic use of digital public participation
Population (2010)	r = -0.18
Population (2019)	r = -0.14
Population Rate of Change	r = 0.04
Percentage Rural Population	r = 0.04

Table 10: Correlation Analysis – Pre-Pandemic use of Digital Public Participation

Our correlation analysis found a weak negative correlation between population size and adopting digital public participation platforms before the COVID-19 pandemic using both the 2010 decennial Census and 2019 5-year American Community Survey estimates. This was counter to our expectations. We also found an extremely weak to no correlation between the municipalities' rate of population change and the percentage of the rural population.

	Correlation between expanding, beginning, neither beginning nor expanding the use of digital public participation
Population 2010	r = -0.33026
Population (2019)	r = -0.32306
Population Rate of Change	r = 0.030276
Rural Population	r = 0.126827

Table 11: Correlation Analysis - Expanding, Beginning, or Neither Expanding nor Beginning Digital Public Participation

We found a moderately negative correlation between population size and our respondents indicating that their governmental unit had begun or expanded their use of public participation or if they did not expand or begin using digital public participation. We found no correlation between population change and the likelihood of expansion or adoption of digital public participation. We found a weak positive correlation between the expansion or adoption of digital public participation and the percentage of our respondents' percentage of the rural population.

	Pre COVID-19 Pandemic Public Participation Quality	Post-COVID-19 Pandemic Public Participation Quality	Change in Quality of Public Participation
Population (2010)	r = -0.17	r = 0.01	r = -0.20
Population (2019)	r = -0.17	r = 0.00	r = -0.19
Population Rate of Change	r = 0.08	r = -0.13	r = 0.21
Percentage Rural Population	r = -0.07	r = 0.06	r = -0.14

Table 12: Correlation Analysis - Quality of Public Participation

We found that there were moderately negative correlations between the perceived quality of public participation quality and population before the COVID-19 pandemic, no correlation between the perceived quality after the beginning of the pandemic, and a moderate negative correlation between a change in perceived public participation quality and population. This demonstrates that the larger Indiana municipalities in our sample did not necessarily have better public participation outcomes than the smaller municipalities in our sample. Municipalities that had larger rural populations had a weak correlation between their perceived quality of public participation both before and during the pandemic, with a weak correlation between rural population percentage and a change in perceived quality of public participation.

	Pre-Pandemic Use of Digital Public Participation correlation to Perceived Quality of Public Participation
Pre-Pandemic Perceived Quality of Public Participation	r = -0.2689
Post-Pandemic Perceived Quality of Public Participation	r = 0.063261
Change in Perceived Public Participation	r = 0.31844

Table 13: Correlation Analysis – Pre-Pandemic Use of Digital Public Participation and Quality of Public Participation

We found a moderate negative correlation between a municipality's pre-pandemic use of digital public participation and a pre-pandemic perception of the quality of their public participation. There was a very weak positive correlation between the use of digital public participation pre-pandemic and the quality of public participation. However, there was a moderate positive correlation between the pre-pandemic use of digital public participation and a positive change in the perception of their public participation. This could indicate that there is a relationship between an existing digital public participation infrastructure and the ability for municipalities to adapt to the reality presented during the pandemic.

	The Adoption or Expansion of Digital Public Participation and the Post COVID-19 Pandemic Perceived Quality of Public Participation
Post-COVID Perception of the Quality of Public Participation	r = 0.165416
Change in the Perception of Quality of Public Participation	r = 0.330635

Table 14: Correlation Analysis – Adoption or Expansion of Digital Public Participation and Quality of Participation

The adoption or expansion of digital public participation by a municipality did show a weak correlation with the post-COVID-19 pandemic perceived quality of public participation, and a moderate correlation with a positive change in perceived quality of public participation from before the COVID-19 pandemic and the time during the pandemic when this survey was administered. These results show that there is some value to the addition of digital public participation in a communities' toolbox. Again, this relies on the perception of the municipal leaders and does not rely on any non-subjective measures of the effectiveness of public participation, but it does present a case that digital public participation at the very least improves the perception of participation by municipal leaders.

Chapter 6: Conclusion and Discussion

Discussion

We found that many of our expectations when beginning this research have been completely subverted. Our survey results did show that there was an overall increase in the adaption or expansion of digital public participation by Indiana's municipalities. Further, the expansion or adaption appeared to be more reliant on digital public participation platforms that were easier to implement such as social media and government websites. These platforms would fall to the lower levels of e-governance in relation to the dominant models and would indicate that Indiana municipalities were far from the final stages of those models and not yet fully-realized practitioners of e-governance. Our findings also show that, through expanding into these means of digital public participation, the COVID-19 pandemic had some effect on moving Indiana through the stages of these models. There were also barriers that we did not account for in the writing of our survey that could provide opportunities for further research.

When we examined the correlation between our chosen variables of population size and the percent of the rural population and the adoption or expansion of digital public participation platforms, the descriptive statistics were justified by our documented correlative relationship. We found a moderate negative correlation between the adoption or expansion of digital public participation and population. Not only does this disprove our hypothesis that municipalities with a larger population would be more likely to adopt or expand public participation platforms into their public participation strategies but the exact opposite of our expectations was shown. Municipalities with larger populations were shown to be less likely to adopt these platforms.

We found a weak positive correlation between the percentage of the rural population and the adoption of digital public participation platforms. This was another subversion of our expectations. These findings could indicate that the digital divide is more of a creek than a chasm that municipalities are findings ways to leap over. Our findings could also indicate that more rural communities are more open to adaption. The COVID-19 pandemic could serve as a catalyst demonstrating municipal adaptability in general instead of municipalities' relationship with digital public participation. Regardless this demonstrates that there is a need for further research into this relationship.

Our prediction that lack of technical and professional capacity was challenged by the findings of our surveys. We found that the barriers that were preventing Indiana's municipalities from engaging in the use of digital public participation were distributed relatively evenly in our results. Though the second survey saw slightly more variation regarding these barriers, our respondents did not identify that one was chosen at a much higher rate than what we predicted, lack of technical or professional capacity. We did note that there was a measurable shift towards adopting or expanding digital public participation platforms among our sample which would indicate that the introduction of these platforms did factor into the strategies utilized by municipal governments in combating the restrictions that the COVID-19 pandemic placed on public meetings. The qualitative results from our survey were not analyzed in-depth due to our participants not engaging with the qualitative questions. However, they still provided a limited glimpse into some factors not considered in our survey design. Many respondents indicated that they didn't perceive it as necessary, which gives some support to our assertations that municipal leaders' decision-making is influenced based on their perceptions. Another response indicated that they already broadcast their public meetings on a local access television network, which

indicates that our survey research failed to account for older technology covering what would we thought would now be performed by modern digital platforms. While broadcasting public meetings, either through local access television or using internet platforms, does give the public the means to be informed on the happenings of public meetings, it does not give the public the means to engage in those meetings.

Our hypothesis, while challenged were somewhat validated when analyzing municipal leaders' attitudes towards digital public participation platforms. We observed an increase in the average score of perceived quality of public participation between the time before the pandemic and the time during the pandemic in which our survey was administered. The mean score given to access quality of public participation increased by .21, or that the quality of public participation increased by one-fifth of the way between fair and good. If public officials noted that they perceived quality of public participation increased after the start of the pandemic then it is not outlandish to assume that the strategies that they employed can help account for some of that positive effect. We found a weak positive correlation between the adoption or expansion of digital public participation and the perceived quality of public participation and a moderate positive correlation between the expansion or adoption of digital public participation and the perceived change in the quality of public participation.

To understand if there was a difference between communities that had already had digital public participation and a change in quality, we determined that there was a moderate negative correlation between a municipality already implementing digital public participation platforms and the perceived quality of public participation. There was only a moderate correlation between municipalities' prior use of digital public participation and the perceived quality of public participation after the COVID-19 pandemic started. However, there was a stronger positive

correlation between those communities and the change in perceived quality. These findings could indicate that there was a lack of community engagement on digital platforms before the start of the COVID-19 pandemic and the restrictions on public meetings forced more people to engage through those platforms and that engagement was seen as positive by our respondents. More research would have to be performed to better understand the cause and relation between existing digital public participation infrastructure and its impact on participation quality.

Regardless of the causal mechanisms that result in this positive shift in the perceived quality in public participation reported by our respondents, there was still a noticeable shift which could indicate that as the state begins to reopen and return to normalcy there would be a shift in public participation methods. This research is unable to determine if those shifts will happen at this time due to the pandemic still happening as this paper is being written. We have hope that one positive of the COVID-19 pandemic will be an increase in the use of these strategies and that more efforts will be placed in utilizing digital public participation and more research performed to understand the important role these platforms play in facilitating governmental transparency.

Limitations and Future Research

Our research has been able to estimate some of the effects that the COVID-19 pandemic had on the use of digital public participation by Indiana municipalities, but it has been hindered by some limitations. Our sample size was rather small, with our second survey only receiving 38 responses. Perhaps due to this small sample size, our results were largely confounding and challenged our predictions. This opens the door for a more detailed analysis to be conducted to further examine the barriers that limit some municipalities from engaging in the use of digital

public participation. There could be a relationship between municipal budget size and the likelihood of adopting digital public participation. Given this small sample size, we understand that there is a high probability of error. This error provides a fine justification for expanding this research to test the validity of the claims made in this paper.

We also did not anticipate that the pandemic would last as long as it has, and we don't believe we are alone in that. We were asking our respondents to access a situation as it happened, which does not allow them to make a complete assessment. This research could be performed again after the pandemic, and our participants could view their public participation as much worse. If the pandemic had ended at the time of our survey being administered, we perhaps would have found that our respondents had abandoned digital public participation as we returned to normalcy which would have allowed us to assess if there had been any permanent shifts. We potentially could have seen that, with the ability to reflect, the perception of public participation quality during the pandemic was not the same as it was while the pandemic was happening. We may have fallen victim to our respondents being optimistic about the levels of participation they were seeing. Our respondents could be using the lemons the pandemic had given them to make lemonade. The perceived quality of the pandemic could be perceived better simply by the fact that they were experiencing some level of public participation during the pandemic when they expected none.

The pandemic also removed our ability to perform any qualitative analysis regarding our research questions. Due to not being able to meet with our respondents and temporal restrictions, we were not able to speak to the human element behind our survey results. In the limited qualitative survey responses in our survey, we were not able to address any subtleties in why some of our respondents indicated that they did not perceive digital public participation

necessary. Without more qualitative data we cannot determine the cause of this perception. We may have found that these respondents only had their communities' elderly population as participants in local meetings and did not believe them to be able or interested to guide themselves to digital public participation platforms. We are not able to address any causality in this research due to the lack of a qualitative component. Qualitative components could have been especially helpful in explaining why we found a positive correlation between the percentage of rural population and adoption or expansion of digital public participation platforms as the literature on the digital divide informed our prediction that rural communities would be less likely to adapt to digital public participation.

The limitations on our research, however, provide a real opportunity for further research into both the effect of the COVID-19 pandemic on digital public participation and digital public participation in general. To properly examine any permanent shifts in public participation, further research must be done. This research also questions the relationship that the digital divide could have on government adaptability. We were not able to determine why rural communities seemed so able to adapt, contra to our predictions. With more time we may have also been able to analyze the municipal budgets of our respondents' governments to glean a more sophisticated explanatory relationship between the fiscal barriers and the use of digital public participation. Regardless, the research in this thesis provides a multitude of opportunities for future research. We hope that this thesis can provide a benchmark, guide, or simply a waypoint on the road to a better understanding of digital public participation, the COVID-19 pandemics effects on Indiana municipalities, or the future policy choices to enable communities to engage their public digitally.

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Appendix A. – Indiana community Survey Question

Q98 Since Governor Holcomb's stay at home order on March 23, has your government unit canceled or rescheduled any public meetings?

- ○ Canceled (1)
- ○ Rescheduled (2)
- ○ Neither (3)

Q99 Were any meetings that would usually have been attended by the public held without public attendance?

- ○ Yes (1)
- ○ No (2)

Skip To: Q100 If Were any meetings that would usually have been attended by the public held without public attenda... = Yes

Display This Question:

If Were any meetings that would usually have been attended by the public held without public attenda... = Yes

Q100 How was the public informed about what happened during the meeting? Please check all that apply.

- ☐ Newpaper (1)
- ☐ Meeting was broadcast or livestreamed (2)

- [ ] Social media (3)
- [ ] Other (4)
- [ ] Information was not made available to the public (5)

Display This Question:

If How was the public informed about what happened during the meeting? Please check all that apply. = Other

Q101 Please describe how else you informed the public about information in the meeting.

_____

Q102 As the state reopens, does your governmental unit have a strategy to hold public meetings while protecting vulnerable populations?

- ○ Yes (1)
- ○ No (2)

Skip To: Q103 If As the state reopens, does your governmental unit have a strategy to hold public meetings while p... = Yes

Display This Question:

If As the state reopens, does your governmental unit have a strategy to hold public meetings while p... = Yes

Q103 What strategies will be used? Please check all that apply.

- ☐ Adopting an online or partial online format (1)
- ☐ Requiring masks at public meetings (2)
- ☐ Enforcing social distancing guidelines at public meetings (3)
- ☐ Other (4)

Skip To: Q104 If What strategies will be used? Please check all that apply. = Other

Display This Question:

If What strategies will be used? Please check all that apply. = Other

Q104 Please describe other strategies you are using.

_____

Display This Question:

If As the state reopens, does your governmental unit have a strategy to hold public meetings while p... = No

Q105 Please select the reasons why no additional precautions are being taken at public meetings. Check all that apply.

- ☐ Lack of fiscal capacity (1)
- ☐ Lack of professional capacity (2)
- ☐ Lack of technological capacity (3)
- ☐ Lack of resources (4)
- ☐ Other (5)

Skip To: Q106 If Please select the reasons why no additional precautions are being taken at public meetings. Check... = Other

Display This Question:

If Please select the reasons why no additional precautions are being taken at public meetings. Check... = Other

Q106 Please describe why no additional precautions are being taken.

_____

Appendix B – Second Survey Questions

The Covid-19 Pandemic's Effect on the Use of Digital Public Participation by Indiana Municipalities

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Start of Block: Default Question Block

Q1 As an elected or appointed leader of an Indiana municipality or county, you are invited to participate in a study being conducted by Jacob Ihrie, a graduate student who will serve as this study's principal investigator. Jacob is performing his master's thesis for Ball State University's Department of Urban Planning. His faculty advisor is Dr. John West, who serves as an assistant professor in Ball State's College of Architecture and Planning. The purposes of this thesis are to understand the effects that the COVID-19 pandemic have had on the use of digital public participation and the perceived effectiveness of digital public participation.

PARTICIPATION

If you agree to participate in this research, you will asked to complete this survey This survey will be asking questions about how your community or county has engaged the public, particularly regarding the use of digital public participation, since the beginning of the pandemic. Participation should take approximately 10 minutes to complete. Your participation in this survey is entirely voluntary. You may refuse to take part in the research or exit the survey at any time without penalty. You may skip any question you do not wish to answer. Answered questions may still be used in the final analysis. **BENEFITS & RISKS**

You will receive no direct benefits from participating in this research study. However, your responses may help the state of Indiana learn more about how the use digital public participation could be improved in the future. There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life.

CONFIDENTIALITY Your survey answers will be stored initially with Qualtrics.com in a password protected electronic format that is available only to the research team. Data will later be downloaded and stored in a password protected hard drive and stored securely in a locked file cabinet, and available only to the researcher. All information provided to the general public will be reported in aggregate, and no personally identifying information will be publicly available. **CONTACT**

If you have further questions or concerns about your rights as a participant in this study, contact the Office of Research Integrity at (765) 285-5052 or orihelp@bsu.edu and reference this IRB Net number: 1670910-2. If you have questions concerning the study, contact the principal investigator, Jacob Ihrie, at (260)-564-7050 or by email at jpihrie@bsu.edu. You may also contact his faculty advisor, John West by email at jhwest@bsu.edu.

ELECTRONIC CONSENT: Please select your choice below. You may print a copy of this consent form for your records. Clicking on the “Agree” button indicates that: · You have read the above information · You voluntarily agree to participateYou meet the following requirements for inclusion in the study: · You are 18 years of age or older · You are currently or formerly an elected or appointed leader in your community or county

- ○ Agree (1)
- ○ Disagree (2)

Skip To: End of Survey If As an elected or appointed leader of an Indiana municipality or county, you are invited to partic... = Disagree

End of Block: Default Question Block

Start of Block: Respondent Information

Q2 What is your position in local or county government?

▼ Mayor (1) ... Other (15)

Q3 What is your position title?

_____

Q4 What type of municipal government do you hold office in?

- ○ City (1)
- ○ Town (2)
- ○ County (3)

Q5 In what town, city, or county do you hold office?

_____

End of Block: Respondent Information

Start of Block: Digital Participation

Q7 At any time before the COVID-19 pandemic and the Governor's executive order did your governmental unit use digital or online platforms to engage with the public?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If At any time before the COVID-19 pandemic and the Governor's executive order did your governmental... = Yes

Q8 What platforms did your governmental unit use to engage the public (check all that apply)?

- ☐ Government Website (1)
- ☐ Social Media (2)
- ☐ Livestreaming/Broadcasting Public Meeting (3)
- ☐ Other (4) _____

Display This Question:

If At any time before the COVID-19 pandemic and the Governor's executive order did your governmental... = No

Q9 What are the barriers that prevented your government from using digital or online platforms to engage with the public (check all that apply)?

- [ ] Lack of fiscal capacity (1)
- [ ] Lack of technological capacity (poor internet access) (2)
- [ ] Lack of professional capacity (3)
- [ ] Lack of public interest (4)
- [ ] Other (5) _____

Q10 Before the COVID-19 pandemic, how would you rate the quality of your governmental unit's engagement with the public?

- ○ Very Poor (1)
- ○ Poor (2)
- ○ Fair (3)
- ○ Good (4)
- ○ Excellent (5)

Q11 Since the beginning of the COVID-19 pandemic and Governor Holcomb's executive order, did your governmental unit begin or expand the use online or digital platforms to engage the public?

- ○ Began (1)
- ○ Expanded (2)
- ○ Neither (3)

Display This Question:

If Since the beginning of the COVID-19 pandemic and Governor Holcomb's executive order, did your gov... = Began

Or Since the beginning of the COVID-19 pandemic and Governor Holcomb's executive order, did your gov... = Expanded

Q13 Since the COVID-19 pandemic, what online or digital platforms has your governmental unit started using (check all that apply)?

- ☐ Government Website (1)
- ☐ Social Media (2)
- ☐ Livestreaming/broadcasting public meetings (3)
- ☐ Other (4) _____

Display This Question:

If Since the beginning of the COVID-19 pandemic and Governor Holcomb's executive order, did your gov... = Neither

Q14 What are the barriers that prevented your government from expanding or beginning the use of digital or online platforms to engage with the public (check all that apply)?

- ☐ Lack of fiscal capacity (1)
- ☐ Lack of technological capacity (poor internet access) (2)
- ☐ Lack of professional capacity (3)
- ☐ Lack of public interest (4)
- ☐ Other (5) _____

Q18 Since the COVID-19 pandemic and the Governor's executive order, how would you rate the quality of your governmental unit's engagement with the public?

- ○ Very Poor (1)
- ○ Poor (2)
- ○ Fair (3)
- ○ Good (4)
- ○ Excellent (5)

Display This Question:

If Since the beginning of the COVID-19 pandemic and Governor Holcomb's executive order, did your gov... = Began

And Since the beginning of the COVID-19 pandemic and Governor Holcomb's executive order, did your gov... = Expanded

Q15 Has the use of digital platforms to engage the public improved your governmental unit's engagement with the public?

- ○ Yes (1)
- ○ No (2)

Q17 Could you briefly explain why your governmental unit is unlikely to continue using digital or online platforms to engage with the public?

_____

Q19 Is there anything else you think we should know about digital public participation in Indiana?

_____

Q23 Thank you for participating in our survey. The data that who have provided will be instrumental in the completion of this study. As a reminder, if you have any comments or questions, please contact the principal investigator, Jacob Ihrie, by phone: (260)564-7050 or by email: jpihrie@bsu.edu.